

Date: Sun, 5 Dec 93 04:30:33 PST
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V93 #100
To: Ham-Space

Ham-Space Digest Sun, 5 Dec 93 Volume 93 : Issue 100

Today's Topics:

Are non-metallic cross booms necessary?
Two-Line Orbital Element Set: Space Shuttle

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: 2 Dec 93 00:35:03 GMT
From: pitt.edu!gvls1!hpwisf1.han.paramax.com!raichel@uunet.uu.net
Subject: Are non-metallic cross booms necessary?
To: ham-space@ucsd.edu

The latest AMSAT proceedings has an article on this subject.
The author said that if the elements are mounted 45 degrees from the
crossboom (look like an x instead of + when look at antenna from the
front or rear), then there is NO PROBLEM with using a steel cross boom,
and running the feed lines down the boom AS LONG AS the cross boom is
not mounted at points $n \times 1/2$ wavelengths from the feed point.

He shows charts of the metal boom running 0, 45 and 90 degrees,
through the elements. At 0 and 90 degrees, there was LOTS of interference,
while at 45 degrees, there was very little. This is because the metal boom
is not in the same plane of EITHER of the two planes of elements.

He also shows charts saying that if the cross boom is mounted at
multiples of $1/2$ wavelengths from the driven element, even if it is not
in the same plane as the elements (45 degrees), there was interference.
There was minimal interference if the boom was mounted anywhere else.

I can't remember the exact title of the article, or publication from AMSAT since I looked at a friend's copy. :-) But I think that it was the latest AMSAT meeting proceedings. Check with AMSAT.

I have a pair of KLM 22CX and 40CX Oscar antennas on a 5 foot tripod with AZ/EX rotors on my roof. I use these antennas for both terrestrial and OSCAR work since I do not have enough room for two antenna systems. I have tried mounting the antennas at a 45 degree angle (x VS +) configuration. I found that the x configurations performed VERY POORLY in terrestrial contacts (cross polarization?), but OK for OSCAR use. So I am stuck with using the + configuration which performed MUCH better for me, but REQUIRES a non conductive cross boom.

Phase II of my antenna project is to phase a PAIR of KLM 22CX and a PAIR of KLM 40CX antennas. This requires a 11-12 foot cross boom! Any suggestions where I can get a 1.5" or 2" 12 foot solid fiberglass rod that can support a 20 pound antenna in 70 MPH winds over a 6 foot unsupported span? That is why I was REALLY interested in the above article!

My current crossboom is a 5' fiberglass rod. I cracked it a couple of months ago when the coax from the 40CX caught on a bolt on the tripod! I have shortened the coax, so I don't think that the problem will happen again. But I do not know how much longer the cracked fiberglass rod can hold out in the upcoming winter storms!

The coax (4XL) was not damaged because I have a ground wire attached to the boom of the antenna, and taped to the coax. Fortunately, the 12 gauge copper wire took most of the strain, and not the N connector on the coax! (The ground wire is there to hopefully, dissipate static charges, and hopefully ward off lightning strikes. I have never been hit by lightning so it must work right? :-))

Thanks
alan

Name: Alan Raichel If you think the answer is simple,
Call: N3IKI then you probably don't understand
Inet: raichel@han.paramax.com the question.
ICBM: 39'10' N 76'30' W #include <std_disclaimer.h>

Date: Fri, 3 Dec 1993 17:58:42 MST
From: europa.eng.gtefsd.com!howland.reston.ans.net!vixen.cso.uiuc.edu!uwm.edu!
math.ohio-state.edu!news.cyberstore.ca!nntp.cs.ubc.ca!unixg.ubc.ca!
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Subject: Two-Line Orbital Element Set: Space Shuttle
To: ham-space@ucsd.edu

The most current orbital elements from the NORAD two-line element sets are carried on the Celestial BBS, (513) 427-0674, and are updated daily (when possible). Documentation and tracking software are also available on this system. As a service to the satellite user community, the most current elements for the current shuttle mission are provided below. The Celestial BBS may be accessed 24 hours/day at 300, 1200, 2400, 4800, or 9600 bps using 8 data bits, 1 stop bit, no parity.

Element sets (also updated daily), shuttle elements, and some documentation and software are also available via anonymous ftp from archive.afit.af.mil (129.92.1.66) in the directory pub/space.

HST

1	20580U	90037B	93337.23514370	.00000795	00000-0	67617-4	0	3686
2	20580	28.4689	54.6088 0004547	24.2499	335.8285	14.92945302196790		

STS 61

1	22917U	93075A	93337.26873843	.00000095	00000-0	00000+0	0	52
2	22917	28.4704	54.4564 0043739	56.4750	98.8891	15.08705509		136

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End of Ham-Space Digest V93 #100

